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Reply to Office Action dated February 4, 2004

REMARKS

In the Office Action dated February 4, 2004, claims 3 and 4 are rejected under 35 U.S.C. §112, second paragraph. Claim 1, 3, 7 and 8 is rejected under 35 U.S.C. §102(b). Claims 1-8 are also rejected under 35 U.S.C. §103(a).

For the reasons set forth hereafter, it is respectfully submitted that Applicant's invention as set forth in claims 1 and 8, and the claims depending respectively therefrom, includes features which are not anticipated or rendered obvious by the cited references, taken singly or in any permissible combination. Reconsideration is, therefore, respectfully requested.

Claims 3 and 4 are rejected under 35 U.S.C. §112, second paragraph. Claims 3 and 4 have therefore been amended to depend from claim 1 as treated by the Examiner in the Office Action.

Claim 8 is rejected under 35 U.S.C. §102(b) as being anticipated by Hollander. The Examiner contends that Hollander teaches all of the elements of Applicant's invention as set forth in claim 8. However, it is respectfully submitted that Hollander lacks several features of Applicant's invention as set forth in claim 8.

Hollander discloses a friction sealing method between two members which, when joined together, form a sealed container. A suitable mechanical, brazed, soldered, or welded bond is used to seal the container sections together. Specifically, a ring 36 of low melting temperature lead solder is disposed in a recess in the section and which would be melted by frictional heat generated on its being contacted by the lower edge of container section 35 and then would flow around the lower edge to lock it within the recess in the other container section. However, the drawing of Hollander clearly shows the solder as being initially disposed in the bottom of the recess and not on the inner and outer surfaces of the recesses as set forth by the Applicant in claim 8. The two container sections of Hollander would have to be maintained in a precise axial alignment to provide space between the edges of the upper container section and the opposed inner and outer surfaces of the recess in the

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lower container section to provide space between the two surfaces of the container sections for the solder to flow.

It is respectfully submitted that this differs substantially from Applicant's invention in which the spin weld inducing bonding material is disposed on at least the radially inner recess surface and the radially outer recess surface of the first component. This insures a spin weld bond between the inner and outer surfaces of the second component when the second component is inserted into the recess in the first component.

For this reason, it is respectfully submitted that Applicant's invention as set forth in claim 8 as well as new claim 9 which further defines the spin weld bonding material as also being disposed on the inner end wall of the recess in addition to the radially inner and outer recess surfaces defines patentable subject matter which is not anticipated by Hollander.

Claim 1, 3, 7 and 8 are rejected under 35 U.S.C. §102(b) as being anticipated by Piechowiak. The Examiner contends that Piechowiak discloses all the features of Applicant's invention as set forth in claims 1 and 8, as well as claims 3 and 7 which depend from claim 1.

Piechowiak utilizes a bushing surrounding one end of a tube, both of which are inserted into a stepped bore in a mating component. The bushing fits into an open ended, larger diameter portion of the stepped bore, with the tube extending therethrough into an adjacent, slightly smaller diameter portion of the bore. The bushing is rotated at high speed to simultaneously form friction welds between the outer surface of the bushing and the adjacent inner surface of the surrounding mating component and the radially inner surface of the bushing and the portion of the tube extending therethrough.

It is submitted that Piechowiak fails to disclose the placing of spin weld inducing bonding material on radially inner and outer surfaces of the recess in one component to form the radially inner and radially outer spin welds between the first component and the end of the second component inserted into the recess as set forth

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by the Applicant in claims 1 and 8, as well as claims 3 and 7 which depend from claim 7. For these reasons, it is respectfully submitted that Applicant's invention as set forth in claims 1, 3, 7 and 8 patentably defines over Piechowiak and is not anticipated thereby.

Claims 1 and 3-8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Klinger in view of Hollander. The Examiner contends that Klinger discloses bonding material 90 and 94 which is spin weld induced and disposed in the recess of the first component to join two components by a spin weld. The Examiner contends that it would have been obvious to one of ordinary skill in the art to provide bonding material in Klinger which is fixed in the recess of the first component as taught by Hollander.

However, it is respectfully submitted that the Examiner has failed to make a *prima facie* case of obviousness to support a rejection of Applicant's invention as set forth in claims 1 and 3-8 based on a purported combination of Klinger and Hollander.

Referring to Figs. 3 and 5 of Klinger, it is clear that Klinger lacks any disposal of spin weld inducing bonding material in the recess in one component prior to insertion of a second component into the recess. The material 90 which the Examiner contends defines spin weld inducing material placed in the recess of one component of Klinger is actually a radially inner layer of a multilayer tube. This layer is part of the tube or component inserted into the recess in the mating component as clearly shown in Fig. 5. The recess in the mating component clearly lacks any placement of a spin weld inducing material in the recess prior to insertion of the second component into the recess. The spin weld zones formed after rotation are from the material of the two components.

In Klinger, the spin weld on the radially inner and outer surfaces of the multilayer tube inserted into the recess in the mating component is formed by inner and outer layers of the tube and not any additional spin weld inducing material initially contained in the recess. It is respectfully submitted that Klinger teaches completely

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away from Hollander such that it would not be obvious to one of ordinary skill in the art to combine Klinger and Hollander as posed by the Examiner.

For these reasons, it is respectfully submitted that Applicant's invention as set forth in claims 1, 3-8, as well as new claim 9 which depends from claim 8, includes features which are not rendered obvious by any permissible combination of Klinger and Hollander.

Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Klinger and Hollander and further in view of Sydor.

The Examiner cites Sydor for disclosing that double injection molding is a known alternative in the art to provide a suitable coupling between members of the same base material. From this, the Examiner concludes that it would have been obvious to one of ordinary skill in the art to provide the bonding material to be fixed in the recess of the first component by a double injection molding step as taught by Sydor.

However, it is respectfully submitted that, for the reasons set forth above, it is not obvious to combine Klinger and Hollander. For this reason alone, it is respectfully submitted that any combination of Klinger, Hollander and Sydor does not render obvious Applicant's invention as set forth in claim 1, from which claim 2 depends.

Further, there is no teaching in Hollander of fixing the solder in the recess. It is submitted that one of ordinary skill in the art, upon reading Hollander, would obviously be led to a conclusion that the solder is merely loosely dropped into the recess. There simply is no teaching or suggestion in Hollander of pre-heating the solder prior to joining of the mating ends of the container sections together so as to fix the solder in the recess prior to the joining step.

For this reason, it is respectfully submitted that Applicant's invention as set forth in claim 2 patentably defines over Sydor.

In conclusion, for the reasons set forth above, it is respectfully submitted that Applicant's invention as set forth in claims 1-9 includes features which

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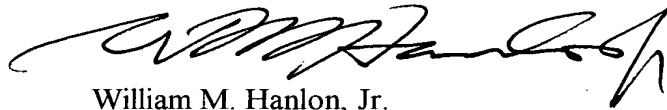
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are not anticipated or rendered obvious by the cited references, taken singly or in any permissible combination. Thus, it is submitted that claims 1-9 are in condition for allowance; a notice of which is respectfully requested.

Respectfully submitted,

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